Remarks

Reconsideration and allowance are requested in view of the above amendments and the remarks below. Applicants do not acquiesce in the correctness of the rejections and reserve the right to present specific arguments regarding any rejected claims not specifically addressed. Furthermore, Applicants reserve the right to pursue the full scope of the subject matter of the original claims in a subsequent patent application that claims priority to the instant application.

The drawings have been formalized and amended in response to the Examiner's objection to the drawings.

The objection of claims 1-13, 17, and 18 as being in improper form is moot in view of the cancellation of the claims.

Claims 14-16 are rejected under 35 U.S.C. 102(e) over Lambert (6,724,324). This rejection is defective because Lambert fails to disclose each and every feature set forth in the claims as required by 35 U.S.C. 102(e).

As depicted in Figure 1, Lambert discloses a capacitive sensor which essentially consists of three electrodes in the form of stripes. These stripes are placed adjacent to each other and a first electrode 12 is subjected to an alternating potential. A current 42 flowing from a second electrode 14 to ground serves as a measurement signal. A middle electrode 16 is arranged between the electrodes 12, 14 and is connected to ground. An equivalent circuit diagram is depicted in Figure 5.

Column 3, lines 45+ describes in detail the principal physical effects that can be observed when an object 20, e.g., a hand, approaches the sensor. A first effect is that the capacitances 32, 34 between the outward electrodes 12, 14 and the object 20 increase. This can be understood when the hand is approximately imagined as an ohmic conductor, which is allowable for slowly varying electromagnetic fields. Furthermore, the capacitance between the outward electrodes 12, 14 decreases. To this extent, with the sensor described in Lambert it is therefore important that the capacitance 32 between the object 20 and electrode 12 changes when the object 20 approaches the sensor. This is in contrast to the present invention where the coupling capacitances always remain essentially the same, see page 7, paragraphs 4 and 5 of the originally filed description.

A further difference between the claimed invention and the sensor described in Lambert is that Lambert's sensor includes only one capacitive probe, namely electrode 14, where a current flow to ground is probed. Independent claim 19 (and similarly independent claims 35 and 40) of the Applicants' patent application, however, includes "a plurality of capacitive probes distributed over a detection area in which a position of the target object is to be determined."

Another difference between the claimed invention and the sensor described in Lambert is that Lambert's sensor does not include a capacitive voltage-divider, since the electrode 12 is directly connected to the AC-source 24. Even if one would consider the configuration of electrodes 12, 16, 14 a capacitive voltage-divider, there would still be no "middle voltage" in the sense of Applicants' patent application. As such, Lambert clearly does not disclose "the capacitances of probes to the environment together with the coupling capacitances in each case forming a capacitive voltage divider with the probe voltages as mean voltages" (i.e., a plurality of voltage dividers) as set forth in independent claim 19 (and similarly independent claims 35 and 40).

Thus, there are numerous differences between the present invention and Lambert. For example, the measurement principle described in Lambert is necessarily based also on the change of the capacitance which, in the terminology of the current patent application, is a "coupling capacitance". With the current invention, these coupling capacitances remain essentially unchanged. Further, Lambert does not disclose a plurality of capacitive probes nor a plurality of a plurality of capacitive voltage-dividers.

Accordingly, Applicants submit that independent claims 19, 35, and 40, and their corresponding dependent claims, are allowable.

With respect to the dependent claims, Applicants herein incorporate the arguments presented above with respect to the independent claims from which the claims depend. The dependent claims are believed to be allowable based on the above arguments, as well as for their own additional features.

If the Examiner believes that anything further is necessary to place the application in condition for allowance, the Examiner is requested to contact Applicants' undersigned representative at the telephone number listed below.

Respectfully submitted,

/ John A. Merecki /

Dated: February 16, 2009

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